

Understanding Meaning in a Second Language: Applications of System Networks in L2 Learning

Parastoo Isa Pour

Undergraduate student of English Language, Department of English, Faculty of English Language Education, Azarabadegan Non-Profit Higher Education Institute of Urmia, Urmia

Abstract

Systemic Functional Linguistics (SFL) has been widely applied in language education since the 1960s, particularly for first language (L1) learning. However, the idea of representing language meaning potential as a system network can offer even more value in second language (L2) or foreign language education. Although early efforts have been made, the uptake of SFL in L2 contexts has been slower than in L1. This paper explores how system networks have been used in L2 studies and highlights opportunities for future research. System networks can be valuable tools in helping L2 learners grasp how to create meaning in a new language. They offer several applications, such as tracking language development, diagnosing problems in learner texts, and guiding the sequencing of L2 curricula. Additionally, system networks can be used to design exercises, guide learners with visual representations, contrast L1 and L2 resources, and enhance translation skills in advanced learners. By focusing on these applications, the paper emphasizes that system networks can make significant contributions to L2 education. Moving forward, more attention should be given to their potential, particularly in areas of L2 education that have received less focus but hold great promise for future development.

Keywords: foreign language teaching; functional linguistics; L2 education; meaningful learning; .system networks; systemic

1)Introduction: the role of system network in the study of language learning

This paper focuses on the potential of system networks in second language (L2) education, exploring both their current and future applications across various educational activities. We demonstrate how system networks can benefit both teachers and students by helping L2 learners progressively master key language skills, including curriculum design and materials development. For readers unfamiliar with Systemic Functional Linguistics (SFL), the first two sections provide an introduction to system networks, with more detailed examples offered in Section 3.

System networks, originally developed by M.A.K. Halliday in the 1960s, conceptualize language as a resource for meaning-making rather than a set of rules. Halliday viewed language as a "meaning potential", contrasting this with Chomsky's concept of competence. In a system network, meaning potential is represented by sets of options (systems) from which language users select, depending on specific conditions.

For instance, in one system, the choice between 'initiation' and 'response' depends on the interactional context. System networks allow for more refined choices, such as 'normal' versus 'intensified,' and can be complex, involving simultaneous or conditional options. Their flexibility and power make system networks far more than simple classification tools. For further details, refer to Matthiessen (2023) and Martin (2013).

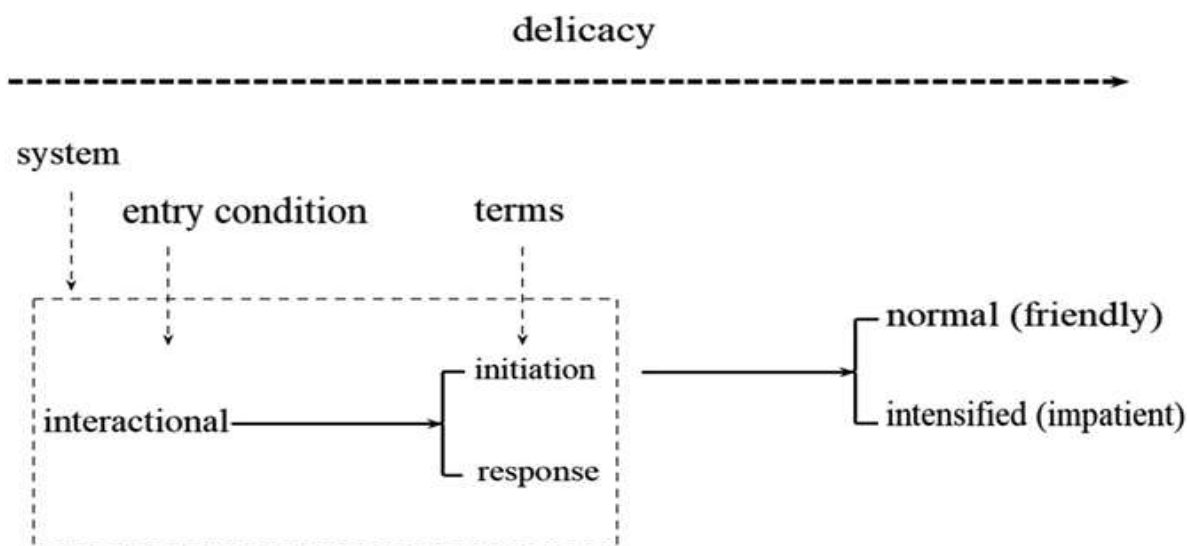


Figure 1: Annotated example of a system, from Halliday's (1975) description of the interactional microfunctional meaning potential of one child's protolanguage.

The semantic potential of a language is realized through its lexicogrammatical structures, which are further realized by phonology in spoken language, graphology in written language, and signing in sign languages. Since the 1960s, Systemic Functional Linguistics (SFL)-based approaches have been widely applied in language education, with genre-based pedagogy proving to be especially popular, effective, and successful (e.g., Gardner 2017; Rose and Martin 2012). However, the concept of the system representing the meaning potential of language in context, as embodied in system networks, has arguably been underemphasized.

Promoting this concept could significantly enhance second language (L2) education. Despite pioneering efforts (e.g., Byrnes et al. 2010), the integration of SFL in L2 education has been more limited compared to first language (L1)

contexts (cf. McCabe 2017; Mickan 2019; McCabe 2021: Ch. 4). This is not to say that system networks are absent from L2 studies informed by SFL; indeed, many draw upon them in some capacity. This paper

advocates for the explicit use of system networks in L2 teaching and learning, reviewing existing contributions and identifying areas for further exploration(see Table 1 below).

Table 1: Examples of systemic functional studies of language learning using system network.

Use of system network	Domain	References	Section in our paper
Tracking language development	L1, longitudinal: learning how to mean (protolanguage), transition into mother tongue L2, longitudinal: learning how to write to mean in L2	Halliday (1975); Phillips (1986); Painter (1984, 1996, 2003) Xuan (2015)	Section 3.1 Section 3.1
Diagnosing problems in student writing	L2: detecting over- and under-use of systemic options; error analysis	Gibbons and Markwick-Smith (1992); Zamorano-Mansilla (2004); Praxedes Filho (2013); Xuan (2015, 2018, 2022); Xuan and Matthiessen (Forthcoming)	Section 3.2
Supporting sequencing in the curriculum	L2: determining curricular phases based on system networks (e.g. increase in delicacy, new regions)	cf. Gibbons and Markwick-Smith (1992)	Section 3.3
Designing exercises based on options in system networks	L2	Arús-Hita (2008, 2016, 2022)	Section 3.4
Guiding L2 learners by means of system networks as cartographic tools	L2	cf. Matthiessen (1995); Flores Calvo (2021)	Section 3.5
Contrasting L1 and L2 resources based on multilingual system networks, representing shared potential and language specific potentials	L2	cf. Bateman et al. (1999); Matthiessen (2015, 2018); Arús-Hita and Lavid (2001)	Section 3.6
Supporting advanced L2 learners expanding their L2 uses by adding translation skills drawing on multilingual system networks	L2	cf. Halliday (2013); Matthiessen (2014)	Section 3.7

Learning a L2 (second/foreign language) can be conceived of as **learning how to mean in a new language** (cf. Halliday 2007 [1978]). This involves learners **gradually mastering the meaning potential of the new language**, most likely against the background of their L1 meaning potential: in fact, they are very likely to create a **multilingual meaning potential** (e.g. Matthiessen 2018) involving both their L1 meaning potential and the L2 meaning potential they are gradually mastering –

although the relationship between them will obviously depend on a number of factors, centrally including the L2 educational approach (e.g. monolingual vs. translanguaging; cf. Section 3.6). In L2 education, system networks can be used in a variety of ways. For example, we can use them to profile L2 learners’

choices in their output in order to track their frontier in the expansion of their own meaning potentials, determining if there are parts of the systemic potential that they don't access or areas that they over-use. In this paper, we will take stock of the ways system networks have been used in studies concerned with L2 education and at the same time we will highlight new opportunities to empower new studies and applications based on system networks as a way of engaging with the central notion of learning how to mean in a second/foreign language. We argue that system networks can make a very significant contribution to L2 education if they are given more attention and their deployment is highlighted. There are quite a number of actual and potential uses of system networks in L2 education, including those set out in Table 1. Some L1 studies have been included which we consider represent good models on which to base applications to L2 contexts. As said above, Table 1 does not cover all the uses of system networks which are found in the L2 educational literature; just those that will be expounded in this paper. There are other educational uses identified in the literature also worthy of attention in future research, and which, for reasons of focus and space, we cannot delve into on this occasion. One of those uses is, for instance, that of system networks as an assessment tool to evaluate students' proficiency in a second language or foreign language. Liardet (2013, 2016) demonstrates that the use of system networks to highlight the different textual functions of grammatical metaphor in students' writing – such as cohesion, reference, and coherence – can enable educators to better comprehend and differentiate students' proficiency in a second or foreign language. System networks can in this way offer teachers the opportunity to assess students' writing proficiency. In the context of secondary education, Morton and Llinares (2018) illustrate the use of a system of appraisal to examine the development of attitudinal resources used by Spanish English L2 speakers in their history learning. This offers deeper insights into how different options from the appraisal system assist students in forming their views and interpreting the historical events they study. The same applies to the use of engagement systems in history classes in the US context (Bunch and Willett 2013). Additionally, system networks complement traditional second language writing instruction by providing more metalinguistic knowledge for language teachers to support their students. Cheng and Chiu (2018) explore the application of genre-based pedagogy in teaching Chinese as a second language in Taiwan, China. Their study reveals that the use of system networks, particularly the lexicogrammar systems under the three meta functions in SFL, can effectively enhance the writing skills of students of Chinese as L2. This improvement was observed after explicitly scaffolding the learners on how to write in the Chinese genre. All of the above shows that system networks do have great potential in the general context of education and the specific one of second/foreign language teaching and learning. Further revision of the existing literature on the use of system networks in L2 education is provided in the corresponding sections dealing with different areas of application of system networks. We comment here on one of the uses identified in Table 1, and then explore the rest in more detail in Section 3. We will start with "designing exercises" because this will also provide us with an opportunity to introduce a few aspects of the system network fundamental to their use as a power tool in L2 education. Designing exercises. It is possible to interpret traditional exercises designed to help learners master (word rank) paradigms such as noun declensions and verb conjugations as exercises based on system networks. However, they were less sophisticated in that they only involved the tabular intersection of certain features such as case and gender, person and number that can be described more powerfully by means of system network, and the focus was on teaching e.g. verb conjugations and noun declensions (as illustrated quite chillingly in the Latin lesson in Alf Sjöberg's Swedish 1944 film *Hets* [translated into English as "Frenzy" or "Torment"] from a screenplay by Ingmar Bergman¹) rather than on the mastery of the systems that underpin them. Simple exercises based on system networks include what we might call phonetic yoga (cf. Matthiessen 2015, 2022, 2023). One of the challenges L2 learners face is located at the expression plane of the language they are trying to learn; in the case of spoken language, this means the expression plane strata of phonology and phonetics: they have to master the sounding potential of the language they are engaged with. At the rank of phoneme (if this rank is relevant in the language learners are working on; cf. Halliday 1992a; Matthiessen 2021), vowels in the learners' L1 and L2 may involve the three articulatory systems of RESONANCE, APERTURE, and BACKNESS. They can all be located in reference to our shared human articulatory potential (see Catford 1977), as shown in Figure 2. which gives us a basis for articulatory phonetic yoga, designed to help students become aware of the fact that speaking is a process of choosing among the options in sounding in the L2 they are learning and to help them explore possible options in our shared human sounding potential that may not be phonologized in their L1 but which have been in their L2. For instance, imagine that we are teaching French to a group

of English-speaking students. In English, the systems of APERTURE and BACKNESS are not independently variable: ‘front’ vowels are ‘spread’ and ‘back’ vowels are ‘rounded’, but in French they are independently variable to some extent – specifically, ‘front’ vowels (if they are ‘high’, which is a value of a systemic parameter not shown in Figure 2), can be either ‘spread’ /i/ or ‘rounded’ /y/. So here exercises in phonetic yoga would help English L1 students vary APERTURE and BACKNESS independently of one another (And if for some odd reason, they were also trying to learn Swedish, their exercises would involve the same exercise as for French, but in addition they would also practice producing “over-rounded” back vowels as well as ‘rounded’ ones).

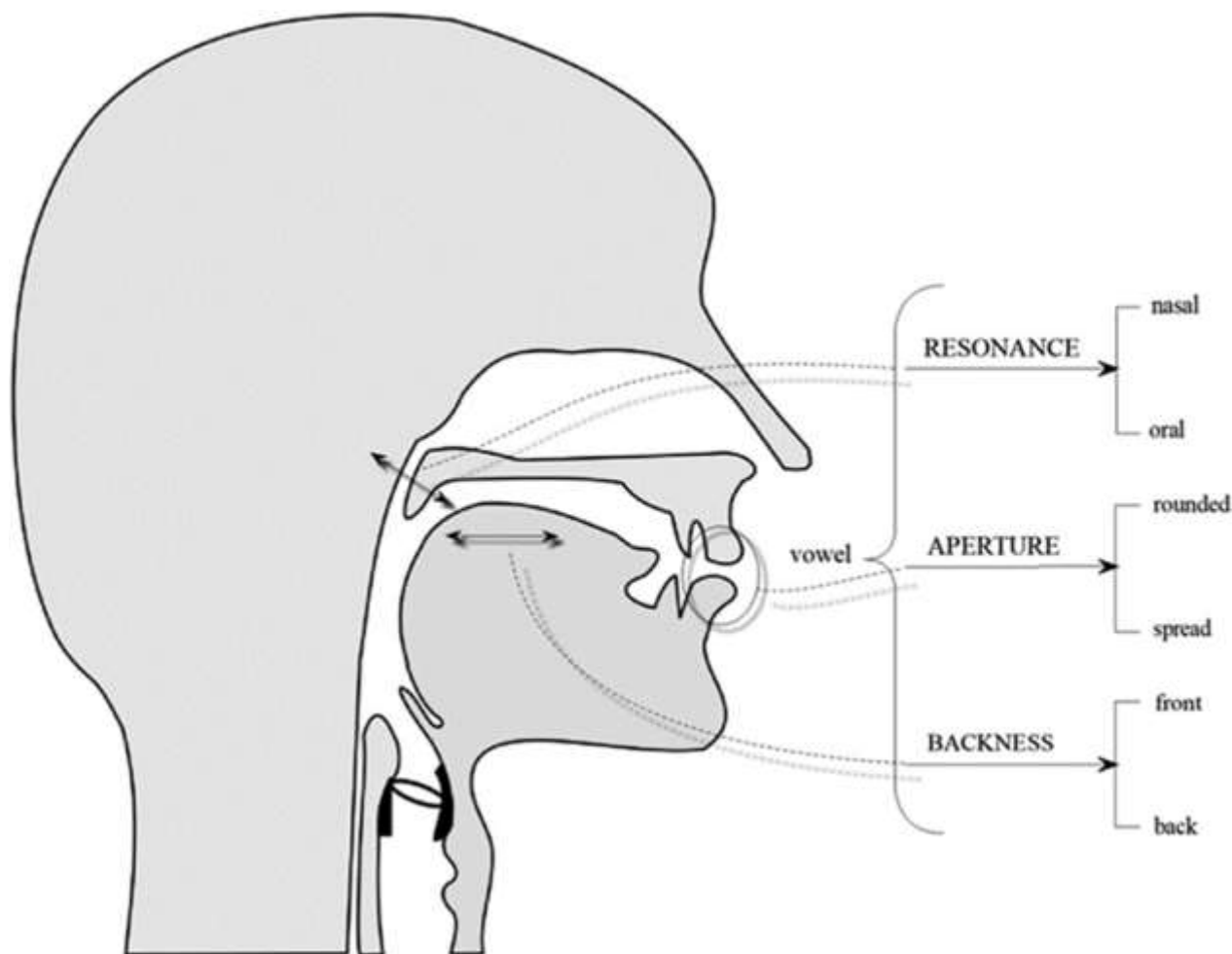


Figure 2: Three simultaneous vowel systems representing three sets of articulatory options (e.g. ‘nasal’ vs. ‘oral’) that can be explored by means of phonetic yoga.

Naturally, the range of systemic parameters involved in exercises in phonetic yoga will depend on the particular combination of L1 and L2 languages. For example, if speakers of English are trying to learn Akan, we would introduce them to the systemic distinction between neutral and advanced tongue root position, helping them with exercises where they learn to shift the whole vowel system by advancing their tongue roots.

The very simple system network in Figure 2 says that for ‘vowel’, there are three simultaneous systems, viz. RESONANCE, APERTURE, and BACKNESS. This is just a sketch of part of the human articulatory potential relevant to domain of vowels (for further systemic discussion, see Matthiessen 2021). As we have noted, in the phonology of any particular language, this general articulatory potential will be

“phonologized” in some specific way. The systemic description of the language will bring this out, and the point of phonetic yoga is precisely for learners to explore their articulatory potential so that they can expand it to the point where they can master the sounding potential of their L2.

2) System networks: the representation of language as a meaning potential

As noted above, Halliday developed system networks in order to be able to represent language as a resource for making meaning – as a meaning potential. This move was necessary since he was the first linguist to give primacy to the paradigmatic organization of language (cf. Halliday 2002 [1966]; Matthiessen 2023). Since he introduced them in the 1960s, system networks have been used extensively to represent the semantic, lexicogrammatical, and phonological resources of a fairly wide range of languages (see e.g. Kashyap 2019; Matthiessen and Teruya 2023; Mwinlaaru and Xuan 2016; Teruya and Matthiessen 2015). To give an initial indication of the power of system networks in L2 education beyond the simple example above of supporting phonetic yoga (Figure 2), we will briefly review one “classic” study where the system network plays the central role – a resource teachers can use in analysing their students’ output to diagnose problems² (see further below, Section 3.2). This is Gibbons and Markwick-Smith’s (1992) demonstration of the value of Halliday’s systemic description of modality in English (first presented in Halliday 2005 [1970], and then in revised form in the editions of Halliday’s IFG, Chapters 4 and 10).

Their contribution can be seen against the background of Wilkins’ (1976) proposal for a notional syllabus (cf. the much earlier contribution by Hornby 1954: Part 5 “Various concepts and how to express them”). Gibbons and Markwick-Smith’s (1992: 39) emphasize the value of the systemic organization of the resources of MODALITY,³ in comparison with a list such as Wilkin’s taxonomy:

To illustrate the nature and use of a description, the area of modality in English will be used. This area traditionally causes considerable problems for second-language learners, particularly the meaning and use of modal verbs themselves. For comparison one must look at Wilkins (1976: 40–41). It can be seen that Wilkins’ taxonomy is in essence a list, although the numbering indicates more organisation than Brumfit allows. Formal realisations are numerous and are examples only, and no semantic or stylistic differentiation is made among them. Some of the semantic contrasts are embedded in running text. All of this makes it difficult to base teaching on this taxonomy and renders the semantic analysis of error almost impossible. (Gibbons and Markwick-Smith 1992: 39).

They then present Halliday’s (1985) description of the system of MODALITY, and include his system network, which we have presented here in an adapted version together with a paradigm of examples: Figure 3. They comment on the advantage of the systemic description of MODALITY, or any system of language, over a list of notions – even if it embodies some further organization; they write:

It can be seen that this is a system rather than a list, meeting one of Brumfit’s strongest objections [to Wilkins’ notional syllabus, JA-H, CMIMM & WX]. It presents a clear picture of the major choices available in the English modality system. An important difference from Wilkins’ model is that several semantic choices must be made simultaneously in order to arrive at a possible formal exponent [i.e. realization, JA-H, CMIMM & WX]. The left-to-right axis is one of increasing semantic delicacy. In as far as the language system itself can predict acquisition order (this must always be balanced against external demands and psychological factors such as processing constraints), it would predict the acquisition of the left-hand grosser distinctions before the right-hand more delicate semantic distinctions. (Halliday 1985: 39).

Based on these and other comments in their article, we can see the value of the system network as a cartographic tool (see further Section 3.5); it gives us a very clear and explicit map of the resources in the language – resources that second/ foreign language learners must gradually master. However, they then go on to demonstrate additional value of the system network: they show that it can be used as a diagnostic tool in the analysis of learner output – to “analyse error and absence” as they put it (see further Section 3.2). Using system networks like that of MODALITY, it is possible to analyse written (and of course also) spoken output by learners in order to profile their selections (their choices of systemic options such as ‘modalization’ vs. ‘modulation’) – making possible a comparison with the output by native speakers addressing the same tasks.

In their article, Gibbons and Markwick-Smith (1992: 43) report on the findings of their analysis of two compositions:

In the two compositions by the Hong Kong learner, there is a noticeable and sometimes inappropriate under-use of modality. Some areas of the modality system are reasonably.

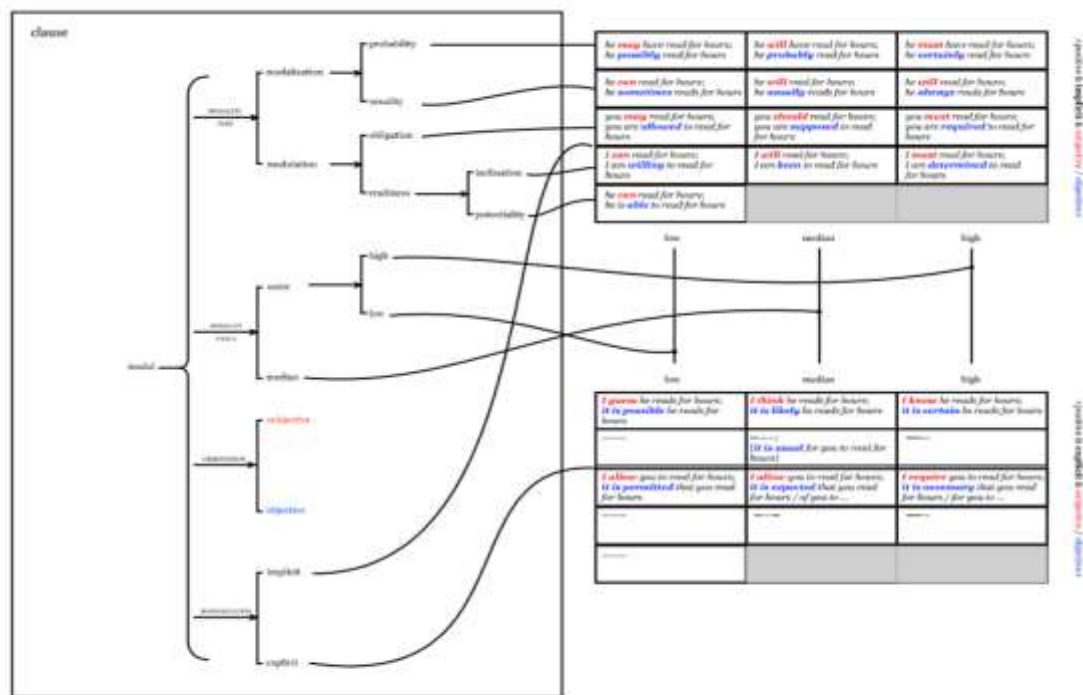


Figure 3: Part of the system network of MODALITY in English (adapted from Halliday and Matthiessen 2014).

represented however – she does not appear to have problems with adverbial exponents of ‘usuality’ – she uses often, never, always and seldom. Similarly, there are a number of correct uses of explicit markers of modality, both objective e.g. it is possible that and subjective e.g. I think that, I find that. It is in the implicit area – in practice this usually means modal verbs – that the problem is found. Notice, incidentally, the utility of the network display in detecting both developed and underdeveloped areas. Although the learner is of intermediate standard and has an extensive vocabulary, the only modal verb used correctly is can [...]. (Gibbons and Markwick-Smith 1992: 43).

Once problems in learner output have been diagnosed systemically, one can move on to a consideration of treatment, or “remedies”; Gibbons and Markwick-Smith (1992: 44) comment: “Using the system network, then, we are able to show that remedial treatment is required in the ‘subjective implicit’ expression of various types of modality.” They then go on to suggest four stages in an “instructional cycle” (Gibbons 1989): Stage 1 – Focussing > Stage 2 – Recognition > Stage 3 – Guided practice > Stage 4 – Application. Throughout this staged process, the system network can serve as a point of reference – a map of the resources to be taught and learnt.

Having reviewed key characteristics of system networks as representations of language as a resource for making meaning, a meaning potential, and briefly illustrated applications in L2 education, we will now examine seven areas of application in some more detail.

3) Areas of application of system networks in L2 education

There are quite a number of actual and potential uses of system networks in L2 education, as indicated in Table 1 above. We will touch on these uses, highlighting those that have perhaps given the least attention in L2 education drawing on SFL, but which look very promising as we move ahead in the next couple of decades – including the helical return to contrastive linguistics (e.g. Lado 1957) in the service of L2

education but now empowered by current SFL rather than American structuralist linguistics of the 1950s: the conception of language as a resource for making meaning in context (a meaning potential), the understanding of L2 learning as learning how to mean in a the second language, the interpretation of learning how to mean in a second language supported by the theory of the multilingual meaning potential.

3.1) Tracking language development systemically

System networks were first used in tracking L1 language development in longitudinal case studies of young children “learning how to mean”, to use Halliday’s theoretically informed formulation. They enabled researchers to track young children’s meaning potential starting with the protolinguistic potential around the age of 5–8 months, showing how they gradually expanded it and also how they re-arranged it before making the transition into the mother tongue spoken around them sometime in their second year of life. The application of system networks to tracking L2 language development is still almost uncharted territory. Xuan’s (2015) longitudinal study is an isolated example of how to track learners’ writing systemically. Because we believe that there is great potential for further studies in this area, let us in this Section show how this has been done in L1 contexts so it may serve as a source of inspiration for potential application to L2 contexts. In a pioneering longitudinal case study, Halliday (1975) initiated a systemic analysis of one child’s, his son Nigel’s, language development from birth, making this project a seminal work in the application of systemic theories to track language learning progress. Halliday began his systematic examination of Nigel’s language when Nigel was 9 months old, and it continued until he reached the age of 3.5 years. Halliday collected 2.5 years of longitudinal data on Nigel’s language development, documenting his transition from an infant to a fluent English speaker. He examined various language functions and captured Nigel’s facial expressions, vocalizations (both articulatory and prosodic), and gestural aspects of his body language. Halliday identified three phases of language development – Phase I (protolanguage) > Phase II (transition from protolanguage to the mother tongue) > Phase III (learning the mother tongue). They are summarized in Figure 4 below, together with critical “architectural” properties having to do with stratification and functional organization.

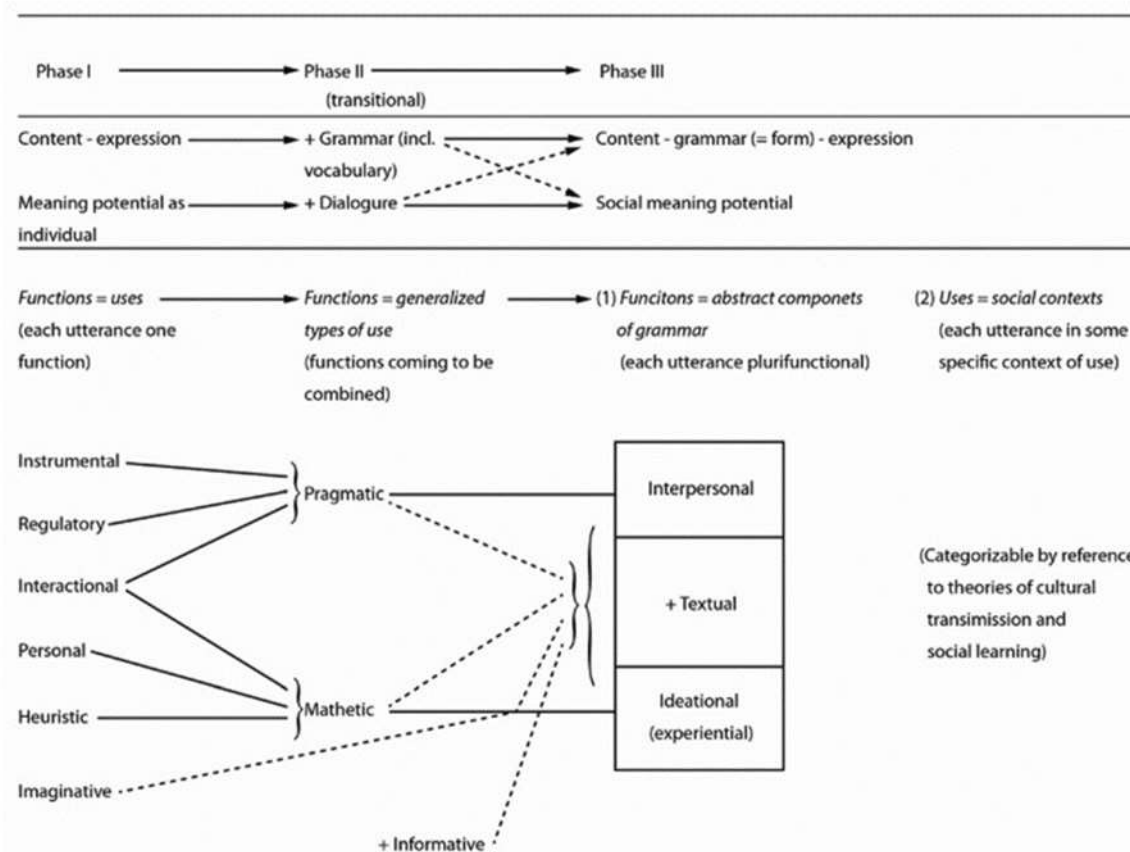


Figure 4: Summary of functional development (Halliday 1975: Figure 7).

As shown in Figure 4, in Phase I, protolanguage, Halliday identified six functions in the first phase of his son's language development. These functions, derived from children's protolanguage use, are microfunctions. That is, they are separate meaning potentials tied to particular contexts of use; they are mutually exclusive in that Nigel selected options within one microfunction in its context or another – at this stage, he was not able to mean more than one thing at the same time (in other words, language was not plurifunctional; each utterance instantiated one microfunction).

During Phase I, Nigel expanded his microfunctional meaning potentials, and Halliday represented systemic snapshots of them at six-week intervals. We have illustrated this for the interactional microfunctional meaning potential in Figure 5, showing successive versions of this growing potential. As can be seen from the successive versions, Nigel gradually elaborates the original options of 'initiation' and 'response', splicing in a less delicate distinction in the third version (1;0 – 1 1/2), viz. 'greeting-personalized' versus 'engagement'. In the final version (1;3 – 1;4 1/2), there is an entirely new development: for 'personalized', Nigel introduces a distinction in content between naming the person greeted ('Anna'/'Mummy'/'Daddy') and the orientation ('seeking'/'finding'). These are the first simultaneous systems in his protolanguage – a preview of the later metafunctional simultaneity of experiential and interpersonal systems, and he creates this possibility by teasing apart articulation (naming the person) and prosody (orientation) within the expression plane. Thanks to the nature of representational power of system networks, it is possible to bring out this very significant semogenic development. It is also the nature of system networks as representations of paradigmatic organization – the organization of language as resource – that makes it possible to capture the continuity throughout the three phases of language development.

During Phase II, the transition from protolanguage into the mother tongue (16.5–18 months), Halliday discovered that the six microfunctions observed in the first phase were transformed into two general macrofunctions: mathetic and pragmatic. These still constituted distinct meaning potentials; i.e. Nigel either chose options in the mathetic system network or in the pragmatic one, but this functional generalization

from the more specialized microfunctions paved the way for the next phase, where the generalized macrofunctions were transformed into more abstract, simultaneous, metafunctions. They can now be represented as simultaneous systems in the units of language. During Phase II, Nigel developed an expanded vocabulary and emergent grammatical structure, and improved language mastery, enabling him to control his surroundings through language.

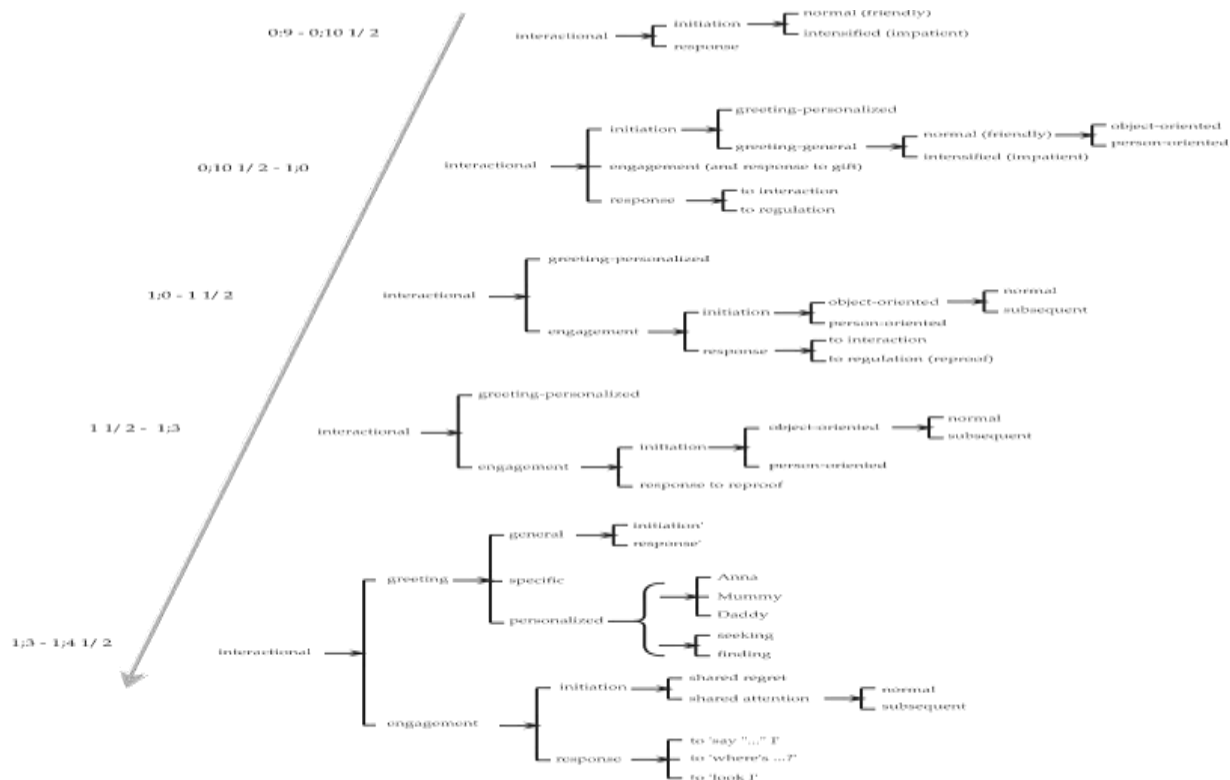


Figure 5: Successive versions of Nigel's interactional microfunctional meaning potential (based on Halliday 1975).

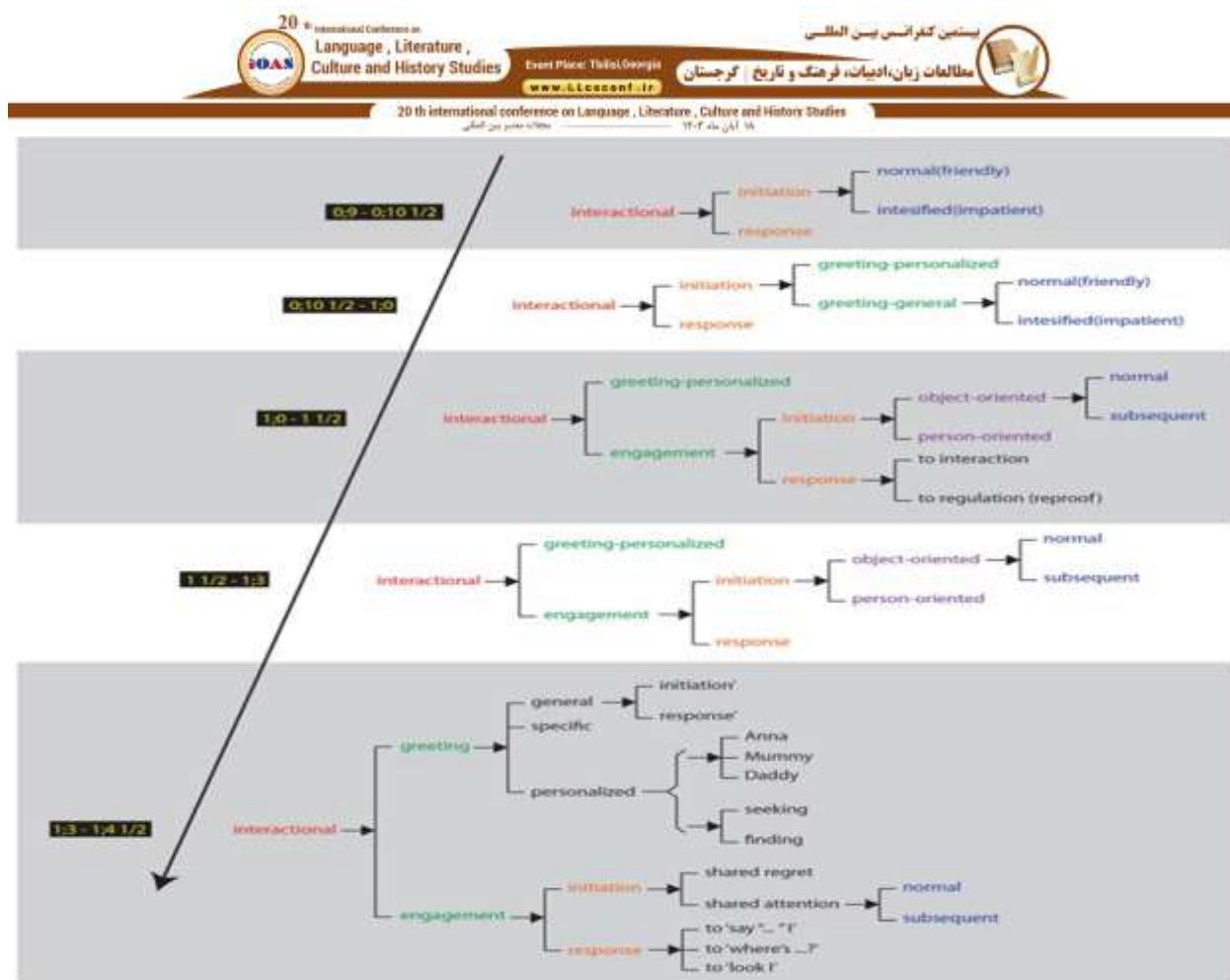


Figure 5: Successive versions of Nigel's interactional microfunctional meaning potential (based on Continued).

Phase III (18 months onwards) marks the child's language development transitioning to adult language. Based on his longitudinal case study of Nigel, Halliday was able to show that the abstract metafunctions of post-infancy, adult language actually emerged from earlier phases of functions, first microfunctions and then macrofunctions.

From protolanguage to one-word utterances, short clauses, and ultimately fluent language use, Halliday's study of Nigel's language development has been groundbreaking in the field of systemic functional linguistics. The wealth of evidence and empirical data gathered has laid the foundation for the theory of systemic functional linguistics and established this study as seminal in utilizing system networks to analyse language development.

In addition to Halliday's work, the idea of system networks has been applied to the study of other young children learning how to mean, initially by Clare Painter and Jane Torr (e.g. Torr 1997). Painter (1984, 1996, 2003) continued Halliday's research first in Painter (1984) and then in Painter (1996, 1999), where she followed her two sons' language development from 9 months to 4 years old showing how they learnt through language as they were learning language. In Painter (2003), she examined the development of the resources of appraisal. This study differs from Halliday's in a couple of respects. Firstly, she focuses solely on her sons' interpersonal meaning-making, narrowing down the research scope – more specifically, attitudinal resources. Secondly, her study involves her two sons at different developmental stages, ranging from 2 to 6 years old.

Painter's study has successfully outlined her sons' interpersonal meaning-making development and contributed additional insights to Halliday's original work. For instance, children employ various semiotic resources to express their attitudes at an early stage, even using their protolanguage to convey emotions. Starting at the age of 2, children begin using judgement and appreciation to evaluate their surroundings. After 2.5 years old, they employ a more nuanced set of adjectives to express attitudinal meanings. Painter's project systematically

maps out the attitudinal resources children develop during infancy and demonstrates the effectiveness and intricacy of system networks for tracking language development. System networks have been proven useful for tracking language functions and interpersonal meaning-making, such as the use of appraisal resources. At the same time, they have been employed to track children's development of ideational grammatical metaphor. Thus, Derewianka (1995, 2003) continued this line of research by investigating the metaphorical language development of her son, Nick. She collected his writing samples from the ages of 8 to 13, focussing on the ontogenetic perspective of children's language development. Derewianka discovered that children only begin using metaphorical language in their writing once they enter secondary school and start learning content courses, such as history.

Derewianka successfully summarized the development of ideational grammatical metaphor in her son's written language development. She applied the systemic idea to categorize the grammatical metaphors collected in her study and compiled a list of findings within the system of grammatical metaphor. This research supports Halliday's hypothesis that (ideational) grammatical metaphor emerges at a later stage in children's lives when they begin constructing.

4) Conclusions

Fundamental to all L2 education informed by SFL is the nature of language as resource (rather than as rule) – a resource for making meaning, or a meaning potential in systemic functional terms. The nature of language as a meaning making resource is brought out most clearly and explicitly when we represent it by means of system networks, showing the options in meaning, wording and sounding that L2 learners have at their disposal as they learn how to mean in the new language, and gradually master its immense resources. Thus system networks enable us to highlight all the different facets and phases of learning how to mean in a new language, and to support the development of pedagogy for L2 education by grounding it in the nature of language itself as a huge network of options in meaning, thus taking into account the unique properties of learning language (as opposed to learning subject or disciplinary knowledge through language).

In light of the above, this paper set out with an agenda to demonstrate the power of system networks in L2 education. To that end, we first presented system networks as they are conceived of within the SFL framework, their value in the representation of language as a meaning potential and a first foray into their role in the study of language learning. Once the main characteristics of system networks had been reviewed and their potential applicability to L2 education had been established, we moved on to show specific areas of application. We thus have seen that system networks may be helpful for tracking language development, diagnosing problems in L2 texts, developing L2 learning materials and curricula, designing exercises, guiding L2 learning in the manner of cartographic tools and contrasting L1 and L2 resources, including the possibility of resorting to translation skills.

The description of all the possible applications of system networks to L2 education represents an arguably important novelty in the fields of SFL and L2 education as well as opening up a wide range of opportunities for future research and implementation. Each of the uses described in this paper is applicable to different areas of the lexicogrammar, whether ideational, or interpersonal, or textual, or combinations of these, not to mention the affordances that the use of system networks representing extra-linguistic potential – e.g. choices available within field, tenor and mode at the level of the context of situation may bring to contextualized L2 teaching (see, e.g. Derewianka and Jones [2016]; Omaggio [2001], to mention but two among the plurality of references stressing the importance of teaching L2 in context). And all of this is extensible to any L2 object of study – and eventually to a myriad of possible L1/L2 combinations: a truly vast repertoire of gaps to be filled.

With the exception of the short introductory phonetic/phonological system networks can be used to help students engage in phonetic yoga as they try to master the sounds of their L2, all examples in the paper have been taken from areas of lexicogrammar, in particular TRANSITIVITY. However, system networks within the other strata of language – semantics and phonology (or graphology) – can be used in very similar ways, as can system networks located within the context in which the students' L2 is "embedded", as said above. In addition, there is one interesting possible use of semantic system networks that is unique to them since semantics serves as the interface between language and what lies outside language. This has been explored in systemic functional research for particular situation types within contexts: Halliday (e.g. 2003 [1972]) and other systemic functional linguists (e.g. Patten 1988) have described the semantics system

networks tailored to particular situation types, e.g. the semantics of maternal control of young children; and they have included explicit lexicogrammatical realization statements, thus showing what areas of lexicogrammar need to be accessed.

Semantic system networks represent specific uses of the overall semantic systems, and they bring out the strategic nature of semantics – the strategies of meaning for solving some specific contextual problem like controlling a young child's behaviour. Such strategic semantic system networks could be used in L2 education. For example, it would be possible to develop semantic system networks characterising the strategies L2 learners need to accomplish contextually defined tasks such as introducing themselves, evaluating a product such as a movie, complimenting a fellow student, describing their home, citing academic work in a research paper. Such register-specific semantic System networks could also help bridge the gap between contextual approaches, i.e. approaches based on communicative needs, tasks or genres, and the lexicogrammatical resources that they need.

In conclusion, this paper has attempted to build a bridge between the existing literature on system networks, including the limited amount of work relating these to L2 education, and the exciting future that may be brought about by the integration of these networks into L2 teaching practices. We hope that the ideas and examples given in the previous pages have succeeded in demonstrating the synergies that this integration may achieve. Future, ideally near-future, research and/or reports on teaching practices will reveal whether the L2 education community picks up the gauntlet that we are hereby throwing down.

References

- 1- Chomsky, Noam. 1965. Aspects of the theory of syntax. Cambridge, MA: MIT Press.
- 2- Halliday, Michael A. K. 2003 [1977]. Ideas about language. In Jonathan J. Webster (ed.), On language and linguistics: Vol. 3 in the collected works of M.A.K. Halliday, 92–115. London: Continuum.
- 3- Halliday, Michael A. K. 1973. Explorations in the functions of language. London: Edward Arnold.
- 4- Hymes, Dell. 1966. Two types of linguistic relativity. In William Bright (ed.), Sociolinguistics, 114–158. The Hague: Mouton.
- 5- Chomsky, Noam. 1965. Aspects of the theory of syntax. Cambridge, MA: MIT Press.
- 6- Matthiessen, Christian M. I. M. 2023. System in systemic functional linguistics: A system-based theory of language. Sheffield: Equinox.
- 7- Martin, James R. 2013. Systemic functional grammar: A next step into the theory – axial relations. Chinese translation and extensions by Pin Wang & Yongsheng Zhu. Beijing: Higher Education Press.
- 8- Gardner, Sheena. 2017. Systemic functional linguistics and genre studies. In Tom Bartlett & Gerard O'Grady (eds.), The Routledge book of systemic functional linguistics, 473–488. London: Routledge.
- 9- McCabe, Anne. 2017. Systemic functional linguistics and language teaching. In Tom Bartlett & Gerard O'Grady (eds.), The Routledge handbook of systemic functional linguistics, 591–604.
- 10- Mickan, Peter. 2019. Language and education: Learning how to mean. In Geoff Thompson, Wendy L. Bowcher, Lise Fontaine & David Schöntal (eds.), The Cambridge handbook of systemic functional linguistics, 537–560. Cambridge: Cambridge University Press.
- 11- McCabe, Anne. 2021. A functional linguistic perspective on developing language. London: Routledge.
- 12- Ryshina-Pankova, Marianna & Heidi Byrnes. 2017. Embracing the language-educational challenge of FL departments: Reflections on ways forward. The Modern Language Journal 101(2). 424–427.
- 13- Halliday, Michael A. K. 2007 [1978]. Is learning a second language like learning a first language all over again? In Jonathan J. Webster (ed.), Language and education: Vol. 9 in the collected works of M.A.K. Halliday, 174–193. London: Continuum.
- 14- Matthiessen, Christian M. I. M. 2018. The notion of a multilingual meaning potential: A systemic exploration. In Akila Sellami-Baklouti & Lise Fontaine (eds.), Perspectives from systemic functional linguistics, 90–120. London: Routledge.
- 15- Liardet, Cassi L. 2013. An exploration of Chinese EFL learner's deployment of grammatical metaphor: Learning to make academically valued meanings. Journal of Second Language Writing 22(2). 161–178.
- 16- Liardet, Cassi L. 2016. Grammatical metaphor: Distinguishing success. Journal of English for Academic Purposes 22. 109–118.
- 17- Morton, Tom & Ana Llinares. 2018. Students' use of evaluative language in L2 English to talk and write about history in a bilingual education programme. International Journal of Bilingualism 21(4). 496–508.
- 18- Bunch, George C. & Kara Willett. 2013. Writing to mean in middle school: Understanding how second language writers negotiate textually-rich content-area instruction. Journal of Second Language Writing 22(2). 141–160.
- 19- Cheng, Fei-Wen & Miao-chin Chiu. 2018. Scaffolding Chinese as a second language writing through a Systemic Functional Linguistics approach. System 72. 99–113.
- 20- Matthiessen, Christian M. I. M. 2014. Choice in translation: Metafunctional consideration. In Kerstin Kunz, Elke Teich, Silvia Hansen-Schirra, Stella Neumann & Peggy Daut (eds.), Caught in the middle language use and translation: A festschrift for Erich Steiner on the occasion of his 60th birthday, 271–333. Saarbrücken: Universaar, Saarland University Press.

- 22- Matthiessen, Christian M. I. M. 2015. Reflections on "Researching and Teaching Chinese as a Foreign Language". Researching and Teaching Chinese as a Foreign Language 1(1). 1–27.
- 23- Matthiessen, Christian M. I. M. 2023. System in systemic functional linguistics: A system-based theory of language. Sheffield: Equinox.
- 24- Matthiessen, Christian M. I. M. 2021. The architecture of phonology according to Systemic Functional Linguistics. In Kazuhiro Teruya, Canzhong Wu & Diana Slade (eds.), Systemic functional linguistics, part I: Vol. 1 in the collected works of Christian M.I.M. Matthiessen, 288–338. Sheffield: Equinox.
- 25- Catford, John C. 1977. Fundamental problems in phonetics. Indiana: Indiana University Press.
- 26- Matthiessen, Christian M. I. M. 2023. System in systemic functional linguistics: A system-based theory of language. Sheffield: Equinox.
- 27- Halliday, Michael A. K. 1962. Linguistics and machine translation. Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung 15(1–2). 145–158.
- 28- Kashyap, Abhishek K. 2019. Language typology. In Geoff Thompson, Wendy L. Bowcher, Lise Fontaine & David Schöntal (eds.), The Cambridge handbook of systemic functional linguistics, 767–792. Cambridge: Cambridge University Press.
- 29- Matthiessen, Christian M. I. M. & Kazuhiro Teruya. 2023. Systemic functional linguistics: A complete guide London: Routledge.
- 30- Mwinlaaru, Isaac N. & Winfred W. Xuan. 2016. A survey of studies in systemic functional language description and typology. Functional Linguistics 3(8). <https://doi.org/10.1186/s40554-016-0030-4>.
- 31- Gibbons, John & Victoria Markwick-Smith. 1992. Exploring the use of a description. International Journal of Applied Linguistics 2(1). 36–50.
- 32- Halliday, Michael A. K. 2005 [1970]. Functional diversity in language, as seen from a consideration of modality and mood in English. In Jonathan J. Webster (ed.), Studies in English language: Vol. 7 in the collected works of M.A.K. Halliday, 164–204. London: Continuum.
- 33- Wilkins, David A. 1976. Notional syllabuses: A taxonomy and its relevance to foreign language curriculum development. Oxford: Oxford University Press.
- 34- Gibbons, John & Victoria Markwick-Smith. 1992. Exploring the use of a description. International Journal of Applied Linguistics 2(1). 36–50. Halliday, Michael A. K. 1985. An introduction to functional grammar. London: Edward Arnold.
- 35- Gibbons, John & Victoria Markwick-Smith. 1992. Exploring the use of a description. International Journal of Applied Linguistics 2(1). 36–50. Gibbons, John. 1989. Instructional cycles. English Teaching Forum 27(3). 6–11.
- 36- Lado, Robert. 1957. Linguistics across cultures: Applied linguistics for language teachers. Ann Arbor: The University of Michigan Press.
- 37- Xuan, Winfred W. 2018. adolescent L2 writing: A systemic functional perspective. Asian-Pacific Journal of Second and Foreign Language Education 3. <https://doi.org/10.1186/s40862-018-0046-2>.
- 38- <https://doi.org/10.1186/s40862-018-0046-2>.
- 39- Halliday, Michael A. K. 1975. Learning how to mean: Explorations in the development of language. London: Edward Arnold.
- 40- Torr, Jane. 1997. From child tongue to mother tongue: A case study of language development in the first two and a half years. Monographs in systemic linguistics, Number 9. Nottingham: University of Nottingham.
- 41- a half years. Monographs in systemic linguistics, Number 9. Nottingham: University of Nottingham.
- 42- Painter, Clare. 1984. Into the mother tongue: A case study in early language development. London: F. Pinter.
- 43- Painter, Clare. 1996. Learning about learning: Construing semiosis in the pre-school years. Functions of Language 3(1). 95–125.
- 44- Painter, Clare. 2003. Developing attitude: An ontogenetic perspective on appraisal. Text 23(2). 183–209.
- 45- Derewianka, Beverley. 1995. Language development in the transition from childhood to adolescence: The role of grammatical metaphor. Sydney: Macquarie University PhD thesis.
- 46- Derewianka, Beverley & Pauline Jones. 2016. Teaching language in context, 2nd edn. New York: Oxford University Press.
- 47- Derewianka, Beverly & Pauline Jones. 2016. Teaching language in context, 2nd edn. New York: Oxford University Press.
- 48- Omaggio, Alice. 2001. Teaching language in context, 3rd edn. Boston: Heinle & Heinle.
- 49- Patten, Terry. 1988. Systemic text generation as problem solving. Cambridge: Cambridge University Press.